

# How to Adjust and Use the

# KALART *Synchronized Prism* RANGE FINDER

Made in U. S. A.

## For Automatic Focusing

The Kalart Synchronized Prism Range Finder was designed and engineered by skilled craftsmen, experienced in the making of precision photographic instruments.

Our factory in Stamford, Conn., is equipped with modern up-to-date machinery and tools for the production of quality merchandise. The latest scientific methods of manufacture are utilized and the Range Finder is inspected at every stage of assembly and the completed unit rigidly checked before packing.

Kalart Precision Photographic Products are preferred by critical photographers with whom perfection is more than a fetish. They are recognized as the standard for accuracy, workmanship, design and finish.

Every Range Finder (like all Kalart products) is warranted accurate and satisfactory and if proven defective in material or workmanship will be cheerfully replaced.

**YOU OWN THE FINEST RANGE FINDER IN THE WORLD.  
IF YOU HAVE ANY DIFFICULTY IN USING IT, OR ANY  
QUESTIONS ABOUT ITS OPERATION, PLEASE WRITE TO OUR  
SERVICE DEPARTMENT.**

Included with your Kalart Synchronized Range Finder is a Registry and Guarantee Card. Be sure to fill out and return the Registry card to The Kalart Company, Inc., 114 Manhattan Street, Stamford, Conn., immediately after your purchase. While this Range Finder is fully guaranteed, this guarantee is effective only after the Registry card has been received by The Kalart Company. Its prompt return will save you unnecessary delay if your Range Finder should ever be sent to the factory for servicing. In addition you will receive timely information on topics of general interest to all photographers which The Kalart Company publishes and distributes to owners of its products.

**THE KALART COMPANY, Inc., Stamford, Conn.**

# How the Kalart Lens Coupled Range Finder Operates

The American-made Kalart Synchronized Range Finder is coupled directly to the camera track, the most stable part of the camera, so that turning the focusing knob not only moves the lens forward and back but also operates the mechanism of the Range Finder, thus automatically synchronizing it with the lens. No other motions are required than those normally used in operating the camera. Simply open the camera and bring the lens standard forward



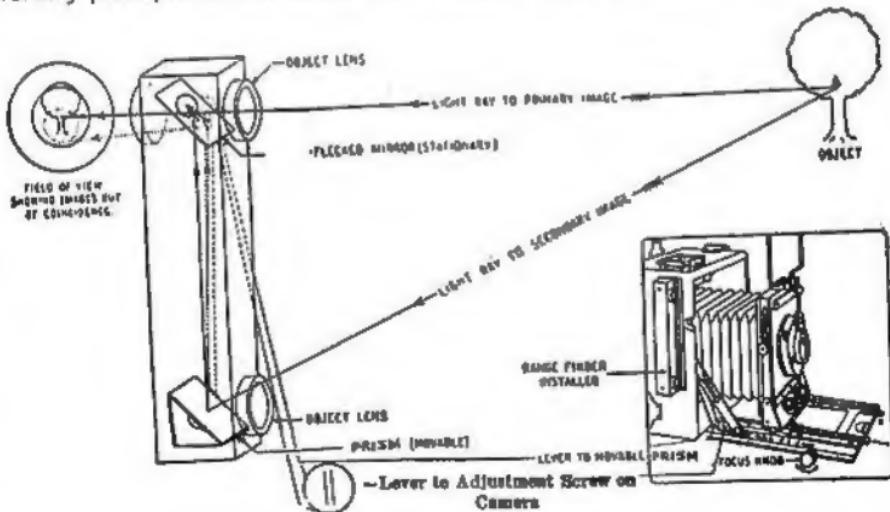
Out of Focus



In Focus

to the infinity stops. Then look at the object to be photographed through the eye-piece of the Range Finder and turn the focusing knob of the camera. When the two separate images of the subject which are visible in a bright luminous circle are superimposed, proper focus is attained.

The illustration at bottom of this page gives a very clear idea of the working principle of the Kalart Lens-Coupled Range Finder. When sighting



through the Finder's eyepiece the eye sees two circular images which are either separated or merged in exact coincidence. When the two images are in coincidence the subject is in exact focus on the ground glass or focal plane of the camera. If the images are separated they are brought into coincidence by turning the focusing knob which operates the camera track. This motion is transmitted to the movable prism of the finder by means of the coupling arms. The movement of this prism is controlled and adjusted, as will be explained later, to synchronize with the lens which may be one of a variety of focal lengths. This is an exclusive and distinguishing feature of the Kalart Range Finder since it not only permits compensating for commercial tolerance permissible in any given lens but also allows for readjusting the Range Finder when interchanging lenses.

Another important feature of this Range Finder is the fact that with the shorter focal lengths of lenses it will automatically focus objects as close as 3 ft. from the camera. This makes it particularly desirable over ground glass focusing especially when working in dim light or when the camera must be held in the hand.

Much unnecessary adjusting of range finders is done by owners who are not aware of the "depth of focus" of the ground glass. Sharpness on the ground glass is limited by the grain size of the ground surface, hence an image may appear sharp although the lens is moved an appreciable distance. On the other hand, the range finder has no depth, focus is either in or out. When checking a range finder to see if it has been correctly adjusted, it is a good habit to set the lens by using the range finder, checking the setting by inspection of the image on the ground glass. If the focus is set on the ground glass and checked in the range finder, it may appear to be out of focus when it actually is sharp. This practice cannot be followed when making adjustments as the range finder must be adjusted to a condition of sharp focus as determined by careful focussing on the ground glass, with the aid of a magnifier.

# SYNCHRONIZING THE RANGE FINDER WITH THE LENS

The following 4 steps are to be followed in readjusting the Range Finder for the same lens or another lens:

1. Check infinity focus of lens—if necessary relocate camera infinity stops.
2. Set Range Finder for infinity.
3. Adjust Range Finder for 15-25 ft. distances.
4. Adjust Range Finder for 4-8 ft. distances.

The first step in synchronizing the Finder to a lens is to establish the correct infinity position for the lens—if necessary relocate the camera infinity stops. Use a tall building, chimney, flagpole, etc., at least  $\frac{1}{2}$  mile distant as an infinity target.

## SETTING THE RANGE FINDER FOR INFINITY

There are five different types of Range Finder installations and in the event your Range Finder is out of adjustment at infinity, re-set it in accordance with the applicable illustration following.

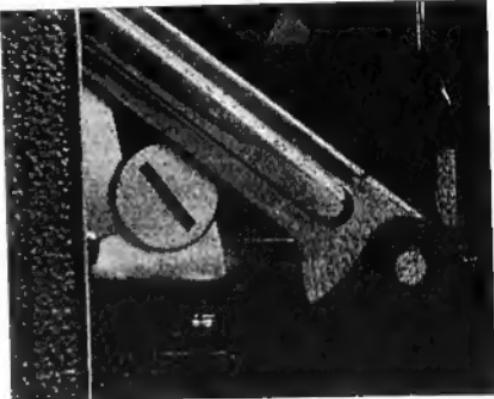


Fig. A

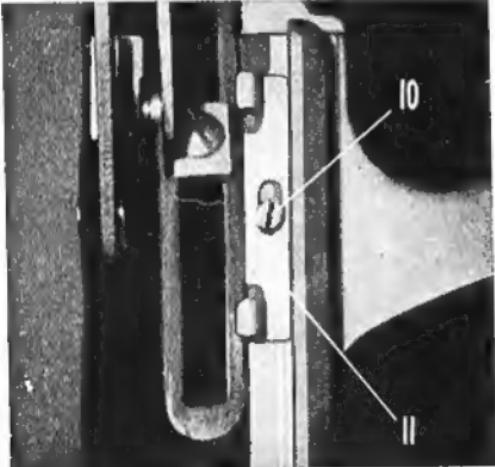


Fig. B

On all Anniversary Models of the Speed Graphic Camera, the infinity adjustment is made by turning the eccentric screw (see Fig. A) attached to the rear of the right runner of the camera track. Move this screw very slightly back to raise the movable image, and forward to lower the movable image. You can use a dime to turn this screw.

On Miniature Model Speed Graphic Cameras the infinity adjustment is made by loosening Screw No. 10 (see Fig. B) and moving the sliding part No. 11 back to raise the movable image and forward to lower it. Be sure to tighten screw No. 10 after setting this adjustment.

Old Style Speed Graphic Cameras (all sizes) and B & J 4 x 5 Press Cameras have an infinity adjustment screw (12 in Fig. C) on top of the knee joint.

Turning this screw in lowers the image and out raises it. If a greater adjustment is needed than can be provided by this screw the "L" piece on the camera track can be shifted by loosening the 2 screws holding it. The holes in the "L" piece are elongated to permit adjustment.

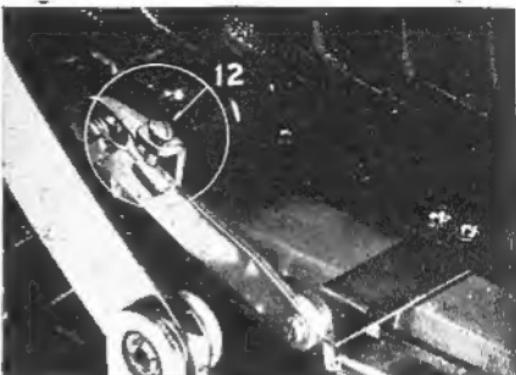


Fig. C

The coupling arms on Recocam and Maximar Cameras have an infinity adjustment screw (13 in Fig. D) located on the front of the arm just under the hub. Pull out the lens standard and turn this screw in to lower the image and out to raise it.



Fig. D

On all other Film Pack type cameras, and Miniature Watson Press Cameras use a long screw driver having a  $\frac{3}{16}$ " or  $\frac{1}{4}$ " blade to turn the eccentric screw on the flat side of the coupling arm just under the hub (14 in Fig. E).



Fig. E

After correcting the infinity adjustment check the Range Finder at distances of 20 feet and 6 feet. If it is not in adjustment at either of these distances, remove the four screws which fasten the Range Finder housing and carefully lift it off. Then follow the instructions on pages 7 and 8.

## ADJUSTING THE RANGE FINDER FOR 15 TO 25 FOOT DISTANCES

Set the adjustment scales for the lens to be used, as listed in the table, page 8. To set the back scale loosen screw No. 2 (Fig. F) by giving it one-quarter turn in the direction indicated and move the indicator (4) to the desired setting. Then tighten the screw. The camera is then focused on a flat object approximately 25 ft. away. Use a magnifying glass to make absolutely certain of the sharpness of the image on the ground glass and then view the image through the Range Finder. If the images are in coincidence repeat the test with the camera focused at 15 ft. If at either or both of these distances the Range Finder is not in focus, an adjustment is made on the rear scale.

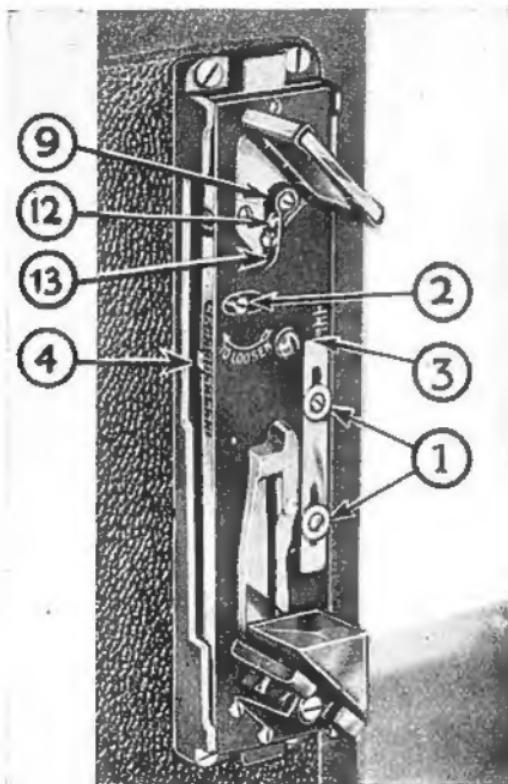


Fig. F

When the movable image is high the indicator is moved down slightly. When the movable image is low the indicator is raised slightly. After this adjustment, re-check the Range Finder at infinity. If the infinity adjustment has shifted, bring it back to focus by following the instructions previously given under "Set Range Finder for Infinity." Check the Range Finder at 25 ft. and 15 ft. again and if the images are not in coincidence, repeat the above directions until coincidence is attained. This method is necessary in order to adjust the Range Finder to the exact focal length of your individual lens rather than to an arbitrary adjustment which would only approximate sharp focus.

## ADJUSTING THE RANGE FINDER FOR 4 TO 8 FOOT DISTANCES

Check the Range Finder 8 ft. and 4 ft. from the target. When using the Range Finder at such close distances be sure that the upper eye piece of the Range Finder is on the same level with and parallel to the target. (See diagram below.)

First focus carefully on the ground glass using a magnifier and then check the Range Finder. If the images do not coincide at either of these distances the front indicator 3 on Fig. F is moved. If the movable image is high the indicator is raised slightly and if it is low the indicator is lowered. To shift this indicator loosen the two set screws No. 1 in Fig. F slightly and after adjusting the indicator tighten the screws. Each time the indicator is moved the Range Finder should be checked at infinity and if that adjustment has shifted it is readjusted.

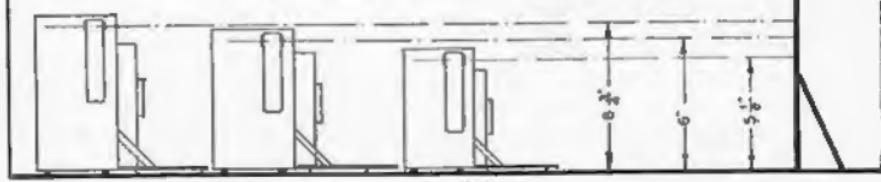
By checking the Range Finder against the image as focused on the ground glass at the close distance of 4 ft. and 8 ft. and the far distances of 15 ft. and 25 ft. as well as at infinity and by making the necessary adjustments as explained, the Range Finder will focus subjects at all distances and the resulting negatives will be as sharp as if the focus had been obtained with the aid of a magnifying glass on the ground glass.

### APPROXIMATE POINTS OF ADJUSTMENT OF THE RANGE FINDER

CAMERA SIZE	LENS	Long Scale (Rear)	Short Scale (Front)
2 $\frac{1}{4}$ x 3 $\frac{1}{4}$	101mm f:4.5	9.5	2
	105mm f:3.5	10.5	2
	4 $\frac{3}{8}$ in. f:4.5	13	2
	105mm f:3.7	13.5	2
	12cm f:6.8	13	2
3 $\frac{1}{4}$ x 4 $\frac{1}{4}$	127mm f:4.7	14.5	3
	13.5cm f:4.5	15	3.5
	15cm f:4.5	18	4.5
	16.5cm f:4.5	20.5	6
	127mm f:4.7	13	3
4 x 5	13.5cm f:4.5	15	3.5
	15cm f:4.5	17	5
	16.5cm f:4.5	19	6
	6 $\frac{3}{8}$ in. f:4.5	17	6

Probable method of sighting target when adjusting the  
Kalee Range Finder at close distances

TARGET



To avoid a parallactic disturbance, we recommend you sight your short distance target in accordance with these three heights as illustrated.

## LATERAL OR SIDE IMAGE ADJUSTMENT

In the event that the two images cannot be coincided because of a lateral (sideways) shift of either one, this is corrected by loosening screw No. 12 and slightly turning Screw No. 9 in Fig. F. This adjustment is made while sighting the images through the finder. Then position the lever (13) parallel to the Range Finder as illustrated and tighten screw No. 12. In this position carefully place the housing over the Range Finder making certain that the lever is engaged in the screw in the housing before pressing the housing down. Then fasten the housing to the camera with the four screws.

Any subsequent adjustments for side-image, if necessary, are made by turning the screw located on the outside of the Range Finder housing under the eyepiece. After each such adjustment give this screw a slight turn in the opposite direction to avoid strain on the lever.

## HOW TO CLEAN THE WINDOWS AND MIRRORS ON THE RANGE FINDER

Climatic and atmospheric conditions may cause the optical elements of the Range Finder to become clouded. This film can be removed from the surface of the glass with a piece of soft dry cotton or lens tissue. Clean carefully and rub gently to avoid disturbing the position of the mirror.

## ACCESSORY BRACKET FOR MOUNTING FLASH SYNCHRONIZER

The mounting plate attached to the housing of the Range Finder is designed to accept the battery cases of the Kelart Master Speed Flash and the Folmer Greflex Flash Synchronizer. To facilitate the attachment of battery cases of other manufacture there is available an accessory slide which fits on the mounting plate and is secured with one screw. The special shoe supplied with most of these other battery cases can be attached to this slide instead of to the Range Finder Housing.

This accessory slide (BSA) illustrated in Fig. H may be purchased from your dealer.

If you have the earlier model of the Kelart Master Battery Case, which does not fit the mounting plate of the Prism Range Finder, remove your Encircling Band and send it to the Kelart Company, Stamford, Conn., for free replacement with the new type band.



Battery Case Slide Adapter

Fig. H

*Flash with your*

**BACK SHUTTER!**

**KALART Sistogun**

**FOR SPEED GRAPHICS**

Kalart Sistogun was designed by news photographers for news photographers!

Sistogun—a back curtain synchronizer for  $3\frac{1}{4} \times 4\frac{1}{4}$  and 4 x 5 Speed Graphics—fits readily under the winding knob—does not interfere with the Lens-Coupled Range Finder.

With Sistogun, camera men may synchronize their Speed Graphics without loss of shutter speed, even at 1/1000 second. The Sistogun can be used with the battery cases of most popular flash synchronizers. Write for free literature.



# **KALART Focuspot**

**— for focusing in total darkness  
or under adverse light conditions**

This newest device from Kalart is used in conjunction with the Prism Range Finder and makes focusing easy even in total darkness.

When the Focuspot is switched on, a beam of light is projected through the Range Finder. This light is split in two by the Range Finder and the two beams are projected on the subject to be photographed. The beams act as a guide in locating and CENTERING the image on the ground glass. The focusing knob of the camera is turned in the usual way. When the two light beams are superimposed on the subject, your picture is in sharp focus. The camera may be held at any level.



**Focuspot is available in  
two models:**

**Model "C"—for use with the  
improved Kalart Master bat-  
tery case and battery cases of  
other makes fitted with a spe-  
cial outlet for the Focuspot.**

**Model "A"—for use with bat-  
tery case of Greflex Syn-  
chronizer.**



**Write for free literature.**





*The*  
**RIGHT**  
*Companion*  
for your Synchronized  
**Rangefinder**  
**KALART**  
Improved  
**MASTER**  
**Automatic**  
**Speed Flash**

Incorporates all these NEW FEATURES!

It's amazing but it's so! With the NEW Kalart Speed Flash you can synchronize gas filled flash lamps (such as the SM and the SF) as well as standard flash bulbs! An adjustment disc on the synchronizer unit controls the point of contact for either type of lamp. It's actually as simple as that!

The battery case, too, has been improved. A special outlet has been provided to accommodate the revolutionary Kalart FOCUSPOT—the most novel and practical advance in automatic focusing in years.

And there's no complicated fussing with outmoded methods of attachment. The Master Battery Case attaches directly to your Synchronized Prism Range Finder. No brackets or gadgets are required. It's simple, quick, and delightfully convenient.

You'll want these new Kalart accessories for your camera. They take the guesswork out of photography by solving your focusing and lighting problems. Your Kalart equipped camera makes picture taking easy—that's the story in a nutshell!

For cameras (such as most popular roll film cameras) not fitted with the Prism Range Finder the Master Battery Case is provided with an angle extension bracket.